

New

The modules in the pixel endcap were tuned for a threshold of $\sim 4000 e$. The noise (average for each active module) was $\sim 170 e$ and the distribution is shown in Figure ?? a. The average noise seen in the cosmic ray test was about 10% lower than that measured during individual module testing under similar, but not identical, circumstances. The observed pixel occupancy per BCID (beam crossing ID or about 25 ns) included fixed pattern noise from a small fraction of the channels. Most of these hot (noisy) pixels were previously identified during individual module tests using an ^{241}Am source. The pixel occupancy for the active modules in one of the endcap discs is shown in Figure ?? b after masking of the hot pixels. About 5×10^{-5} of the active pixels were masked for the modules shown in Figure ??b. BCID 5 corresponds to the peak of the cosmic ray timing distribution with small tails before (BCID 4) and after (BCID 6). The pixel occupancy per BCID for other BCIDs was found to be 10^{-10} - 10^{-9} and is indicative of the random noise occupancy for these operating conditions.

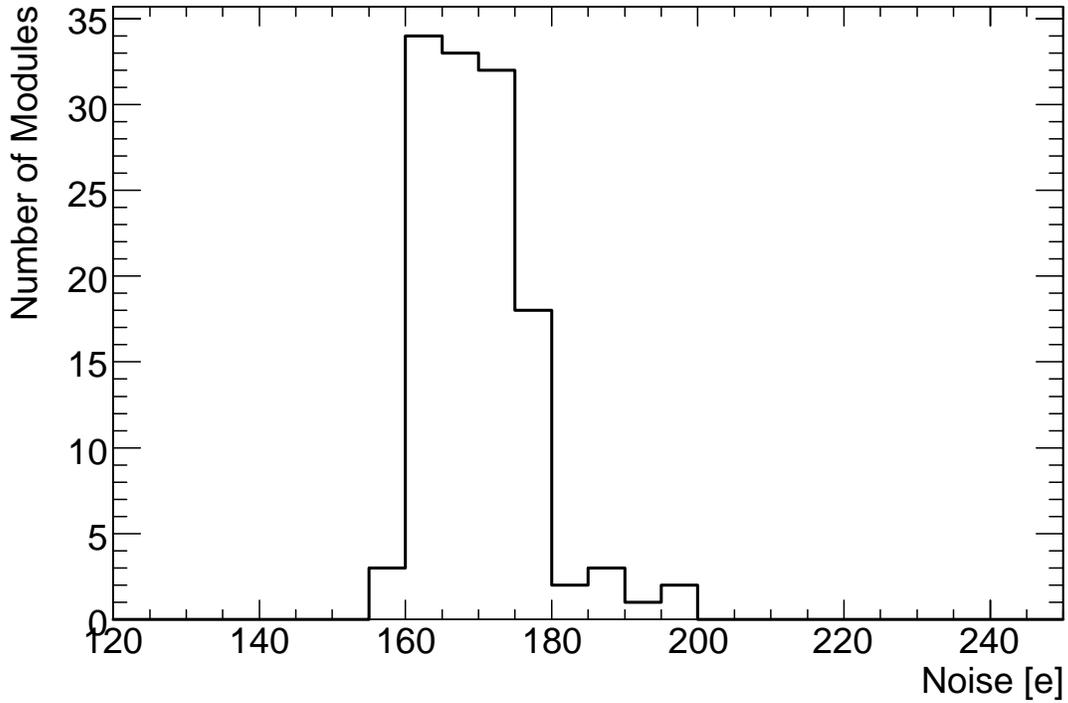


Figure ?? a The average noise in electrons for each active module in the pixel endcap cosmic ray test.

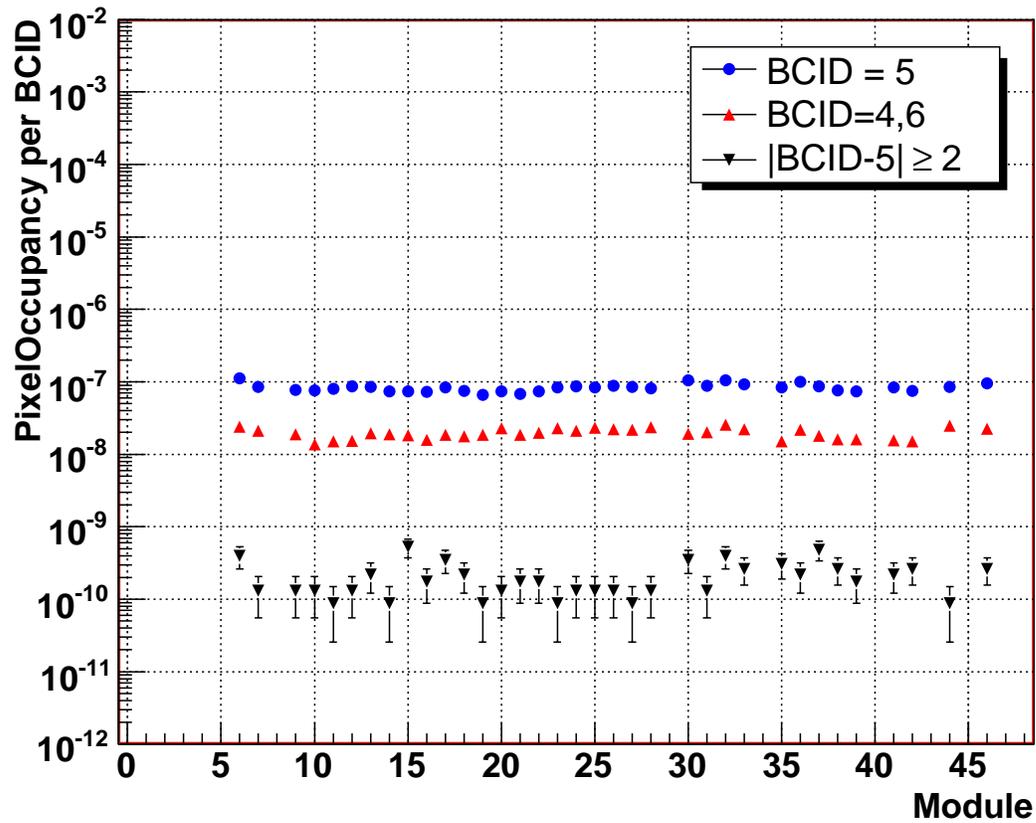


Figure ?? b Pixel occupancy for active modules for one endcap disc during the pixel endcap cosmic ray test as described in the text. BCID=5 corresponds to the peak of the cosmic ray timing distribution and BCID=4,6 corresponds to adjacent time bins. The occupancy for other BCID values represents a measurement of the random pixel noise occupancy.